

LOG BOOK
105 PROGRAM

SPECIFIC FORMAT CHIP PRINTER
JOB 1445

DATE

Approved For Release 2011/05/03 : CIA-RDP78B04747A000800010002-1

CYCLES

1
SIGNATURE

CORRECTIVE ACTIONS IF APPLICABLE,

REMARKS

START END START END

317.3 321.6 16439 16458

QXJ

12/6/67

FINAL ACCEPTANCE TESTING AT FSDS.

MALFUNCTION

C/A

① FAILED TO MEET REQUIREMENTS OF PARA. 5.2.3.6

55 SECTION OF MASK SIZE AND MAG POSITION DID NOT ILLUMINATE GREEN.

RESET 55 MASK SIZE MAG POSITION SWITCH. REPEATED TEST-FUNCTIONS OK

② FAILED TO MEET REQUIREMENTS OF PARA. 5.2.4.4

UPPER CHANNEL SUPPLY SIDE LIGHT DID NOT INDICATE UNTIL FILM WAS OFF SPOOL.

RESET UPPER CHANNEL (SUPPLY SIDE) END OF FILM SWITCH. REPEATED TEST-FUNCTIONS OK

③ FAILED TO MEET REQUIREMENTS OF PARA. 5.2.4.5

LOWER CHANNEL SUPPLY SIDE LIGHT DID NOT INDICATE UNTIL FILM WAS OFF SPOOL.

RESET LOWER CHANNEL (SUPPLY SIDE) END OF FILM SWITCH. REPEATED TEST-FUNCTIONS OK

④ 50 ft. OF FILM METERED ON LOWER TRACK READS 49.2 ft. SHOULD BE 50 ± .4 ft. PARA. 5.2.4.6

⑤ FAILED TO POSITION FILM MANUALLY IN "Y" AXIS, PER PARA. 5.3.2.1

⑥ FAILED TO POSITION FILM MANUALLY IN "Y" AXIS, PER PARA. 5.3.2.2

CLEANED CONTACTS ON "Y" AXIS ADD & SUBTRACT CARD IN WANG COUNTER UNIT. RERAN TEST MALFUNCTION WAS CORRECTED.

ATP STOPPED AT THIS POINT FOR ENGINEERING INVESTIGATION OF "Y" AXIS MANUAL POSITIONING.

NOTE: ATP WAS PERFORMED WITH DIGITAL DRAWS OPEN.

12/6/67

ENGINEERING INVESTIGATION - PRELIMINARY INVESTIGATION DISCLOSED THAT THERE WERE NO MECHANICAL BINDS OR SLIPPAGES IN THE "Y" AXIS DRIVE MECHANISM. FURTHER INVESTIGATION INDICATED AN ANOMALY IN THE "Y" AXIS COUNTER, IN:

321.6 322.7 16458 16467

QXJ

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	CORRECTIVE ACTIONS IF APPLICABLE, REMARKS	START	END	START	END
12/6/67 CONT.	WHEN THE FILM WAS TRANSPORTED IN THE NEGATIVE DIRECTION. AT THIS POINT THE AZIMUTH ADD & SUBTRACT ^{COUNTER} CARD WAS SUBSTITUTED FOR THE "Y" ADD & SUBTRACT ^{COUNTER} CARD IN THE WANG COUNTER UNIT. THE "Y" AXIS COUNTER OPERATED SATISFACTORILY IN BOTH DIRECTIONS OF TRANSPORT. THE PLUG-IN CONTACTS OF THE DEFECTIVE CARD ^{CARD} WERE CLEANED WITH ALCOHOL AND THE CARD WAS REINSERTED IN THE WANG COUNTER UNIT. THE "Y" AXIS COUNTER STILL PERFORMED SATISFACTORILY. MALFUNCTION OF THE "Y" AXIS COUNTER WAS ATTRIBUTED TO POOR CONTACT OF "Y" AXIS ADD & SUBTRACT CARD IN WANG COUNTER UNIT. DURING THIS PERIOD STEP WEDGES WERE ALSO RUN OFF ON THE PRINTER, IN ORDER TO ALLOW OPTICAL MAN TO SET UP FOR PROPER PROCESSING OF AEC MATERIAL.				
12/7/67	PRIOR TO PROCEEDING INTO THE REMAINING PORTIONS OF THE ATP THE OPTICS WERE CLEANED. THIS TASK NECESSITATED THE REMOVAL OF THE XENON LIGHT SOURCE, UPON COMPLETION OF THE CLEANING TASK THE XENON LIGHT SOURCE AND ASSOCIATED HARDWARE WERE REINSTALLED. AT THIS TIME AN ARCING PROBLEM EXISTED BETWEEN THE LAMP CONNECTOR AND METAL HOUSING. THIS PROBLEM WAS CORRECTED BY MACHINING HOUSING MATERIAL ADJACENT TO THE LAMP CONNECTOR, THEREBY INCREASING THE GAP AND ELIMINATING A POSSIBLE DISCHARGE PATH. STARTED ATP AGAIN BY CHECKING OUT MANUAL POSITIONING OF UPPER AND LOWER CHANNELS. MENSURATION PERFORMED SATISFACTORILY. ITEM 5 & 6 OF PAGE 1. DURING PERFORMANCE OF AEC PHASE OF TESTING XENON LIGHT SOURCE ARCING TO GROUND REOCCURRED. SUBSEQUENT INVESTIGATION DISCLOSED THAT THE ARCING PATH WAS THROUGH THE STEEL SCREWS HOLDING THE HIGH VOLTAGE MOUNTING BRACKET. THESE SCREWS WERE REPLACED WITH NYLON	322.7	325.3	16467	16534 QX

DATE	TE: Approved For Release 2011/05/03 : CIA-RDP78B04747A000800010002-1 CORRECTIVE ACTIONS IF APPLICABLE, REMARKS	START	END	START	END	CYCLES 5 SIGNATURE
12/7/67	CONTINUED ACCEPTANCE TESTING AT PARA. 5.3.5 HAD TO REPEAT PARA. 5.3.5.2 PARA.'S 5.3.5.1, 5.3.5.2 AND 5.3.5.3 WERE PERFORMED WITHOUT THE USE OF THE LIQUID GATE IN ORDER TO PRECLUDE THE TAPE HOLDING THE FILTERS TO THE FORMAT AREA, FROM DISLODGING. THE FILTERS USED IN THE PERFORMANCE OF THE ABOVE TESTS WERE PHOTOGRAPHICALLY PRODUCED. 2 CHIP HOLDERS HUNG UP DURING THE TEST OF PARA. 5.3.5.3. VISUAL INSPECTION SHOWED THE TAPE BENT DOWNWARD. MISSED TWO (2) CHIPS AT THE START OF RESOLUTION TESTING. "Y" AXIS COUNTER ERROR RETURNED AT THE START OF TESTING PER PARA 5.3.8 ATP TESTING WAS STOPPED AT THIS POINT PENDING RESOLUTION OF THIS PROBLEM. THE "Y" AXIS COUNTER PROBLEM WAS AGAIN TRACED TO THE "Y" ADD & SUBTRACT CARD IN THE WANG COUNTER, AT THIS TIME BOTH TRANSISTORS OF THE SUBTRACT FLIP-FLOP WERE CHANGED, DUE TO THE FACT THAT THE INPUT TO THIS STAGE WAS NORMAL BUT THE OUTPUT WAS INTERMITTENT. "Y" AXIS COUNTER OPERATED SATISFACTORY AFTER REWORK.	325.3	328.0	16534	16650	Q21
12/8/67	RESUMED PRE-SHIPMENT ACCEPTANCE TESTING STARTING WITH PARA. 5.3.3 WHICH WAS BY-PASSED FROM ORIGINAL TEST POINT. DURING THE PERFORMANCE OF THE ABOVE TEST THE UNIT FAILED TO LOAD CHIPS INTO THE CHIP HOLDER. AFTER THE SECOND FAILURE OF THIS NATURE, IT WAS DECIDED TO RUN THIS PORTION OF TEST WITHOUT THE LIQUID GATE. PRIOR TO PROCEEDING AGAIN THE ARCING IN THE AREA OF XENON LAMP SOURCE REOCCURRED.	328.0	331.4	16650	16724	Q21

DATE	TESTS Approved For Release 2011/05/03 : CIA-RDP78B04747A000800010002-1	START	END	CYCLES	START	END	REMARKS
	CORRECTIVE ACTIONS IF APPLICABLE REMARKS						
12/14/67	REMOVED EXPOSURE LAMP HOUSING AND EXAMINED FOR EVIDENCE OF ARCING TO GROUND. THERE WAS NO OBVIOUS EVIDENCE OF AN ARC PATH TO GROUND. REMOVED PRINT MAGAZINE SKINS AND RAN A NUMBER OF CHIPS THROUGH THE MAGAZINE WITH THE 85% TETRACHLOROETHYLENE 15% FREON MIXTURE GATE IN OPERATION. LIQUID SPLASH AFTER A NUMBER OF SHOTS CAUSED "S" BOWING OF THE CHIP IN THE CATCH TRACKS AND SHOWED A MARKED INCREASE IN FRICTION IN TRANSPORT MECHANISM. OBSERVATION OF THE CHIP TRANSPORT AND INSERTION MECHANISM DURING THE ABOVE LIQUID GATE TESTS REVEALED THAT INSERT FINGER DID NOT ALWAYS RETURN TO THE HOME OR REST POSITION AS IS NORMAL	331A	-	16724	16795	R.Q	
12/12/67	REMOVED AND DISASSEMBLED THE INSERT FINGER MECHANISM. INSPECTION OF THE COMPONENTS REVEALED THAT THE DRIVE YOKE (PART NUMBER 1137-423) EXHIBITED FATIGUE CRACKS IN THE PIN AREA. A NEW PART WAS FABRICATED AND DRAWERS WERE CHANGED TO REFLECT A CHANGE FROM ALUMINUM TO STAINLESS STEEL AND A THICKENING OF THE SECTION WHERE THE FAILURE OCCURED. TEMPERATURE MONITORING OF THE DIGITAL HALF OF THE ELECTRONICS CABINET WAS BEGUN WITH THREE ROTRON WHISPER FANS AND ONE ROTRON SENTINEL FAN MOUNTED ON THE FLOOR OF THE DIGITAL HALF OF THE ELECTRONIC CONSOLE, THE CONSOLE DOOR OPENED AND DRAWER 1A3A7 OPEN. AFTER TWO AND ONE HALF HOURS, THE TEMPERATURE STABILIZED AT 101° F ON THE AN AND CARD IN THE CENTER OF DRAWER 1A3A8. THE	331A 331.5		16795	16795	R.Q	

DATE	TESTS	CYCLES				SIGNATURE
		START	END	START	END	
	Approved For Release 2011/05/03 : CIA-RDP78B04747A000800010002-1					
	CORRECTIVE ACTIONS IF APPLICABLE					
	REMARKS					
	CONDITIONS. DRAWER 1A3A2 WAS CLOSED AND THE FRONT DOOR OF THE ELECTRONIC CABINET WAS CLOSED. IN APPROXIMATELY ONE AND A QUARTER HOURS, THE CABINET TEMPERATURE (AS MEASURED ON THE PREVIOUSLY MONITORED CARD IN 1A3A8) ROSE TO 116° F AND DIGITAL TAPE READ IN WOULD NOT FUNCTION PROPERLY AS IN EARLIER TEMPERATURE TESTS. MONITORING OF THE Y AXIS COUNTER FOR OCCURANCE OF THE INTERMITTANT COUNTING WHICH OCCURRED ON 12/6, 12/7 & 12/8. THE MALFUNCTION OCCURRED A NUMBER OF TIMES; HOWEVER THE PERCENTAGE COUNTING ERROR WAS IN THE ORDER OF 30% WHEREAS ON THE PREVIOUS DAYS OF MALFUNCTION THE MALFUNCTION PRODUCED A 25% ERROR. IT WAS ALSO NOTED THAT THE MALFUNCTION ONLY OCCURRED WHEN TRAVELING IN THE MINUS Y DIRECTION AND ON ON THE MINUS SIDE OF ZERO, SIMULTANEOUSLY.					
12/15/67	REMADE PART 1137-923 AND REASSEMBLED INSERT FINGER MECHANISM. AFTER REINSTALLATION AND REALIGNMENT, PRINTS WERE RUN THROUGH THE MAGAZINE, AND THE INSERT MECHANISM FUNCTIONED SATISFACTORILY. MONITORING OF THE Y AXIS COUNTER FOR OCCURANCE OF THE INTERMITTANT COUNTING PROBLEM CONTINUED. NO COUNTING DIFFICULTIES WERE OBSERVED HOWEVER. THE UPPER & LOWER FILM FOOTAGE COUNTERS WERE INVESTIGATED FOR IMPROPER COUNTING AT HIGH RATES OF FILM TRANSPORT. THE RATIO OF ON TIME TO OFF TIME ON THE COUNTERS WAS ADJUSTED AND THE DIODE-RESISTOR SUPPRESSION WAS REPLACED BY A DIODE-ZENER DIODE BACK TO BACK PAIR ON EACH COUNTER. SOLENOID. FILM FOOTAGE COUNTERS PERFORMED SATISFACTORILY.	337.5	342.4	16795	16824	RQ.

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		CORRECTIVE ACTIONS IF APPLICABLE				START	END		START	END
REMARKS										
		THE Y AXIS MENSURATION COUNTER WAS MONITORED FOR OCCURANCE OF THE INTERMITTANT COUNTING EXPERIENCED ON PRIOR DAYS. NO FAILURE WAS EXPERIENCED. HEAT WAS APPLIED, VIA A HEAT GUN, TO THE Y COUNTER DIGITAL CARDS. THIS DID NOT AID IN CAUSING THE MALFUNCTION TO OCCUR.				342.4	348.3	16824	16829	R.G.
		WHILE EXERCISING THE FILM TRANSPORTS, A FAILURE OF THE X-AZIMUTH POWER AMPLIFIER (INLAND MODEL 150A) WAS NOTICED. THE SYMPTOM OF THIS FAILURE WAS THAT THE OUTPUT IN ONE DIRECTION OF TRAVEL WAS REDUCED TO 8 TO 10 VOLTS (NORMAL OUTPUT BEING 22 VOLTS) EITHER LOADED OR UNLOADED. THIS MALFUNCTION CEASED DURING THE INVESTIGATION FOR ITS CAUSE.								
12/14/67		THE Y AXIS COUNTER WAS MONITORED FOR COUNTING MALFUNCTIONS; NONE OCCURRED.				348.3	354.5	16824	16901	R.G.
		THE X-AZIMUTH POWER AMPLIFIER EXPERIENCED THE SAME MALFUNCTION AS ON 12/13/67 FOR A SHORT PERIOD DURING THE MORNING. AS ON THE PRIOR DAY, THE MALFUNCTION DISAPPEARED WITHOUT ANY CORRECTIVE ACTION. DURING THE REMAINDER OF THE DAY, IT PERFORMED SATISFACTORILY.								
		PRINTS WERE RUN WITH PRINT MAGAZINE SKINS OFF SO THAT WET CHIP HANDLING COULD BE OBSERVED. GATE LIQUID WAS FREON WITH A 0 TO 25% ADDITION OF TETRACHLOROETHYLENE. ALL CHIPS HANDLED WELL ALTHOUGH THERE WAS SOME INDICATION OF S BOW IN THE CATCH GATE AT STATION FOUR.								
		DUDDLING AND SPILLAGE WAS MUCH REDUCED AS COMPARED TO THE 85% TETRACHLOROETHYLENE 15% FREON MIXTURE.								

DATE	TESTS CORRECTIVE ACTIONS IF APPLICABLE REMARKS	Cycles				316.
		START	END	START	END	
	THE EVAPORATION RATE OF GATE LIQUID WAS MUCH INCREASED OVER THE 85% TETRACHLOROETHYLENE 15% FREON MIXTURE, THE BULK OF THE GATE LIQUID BEING GONE IN 20 TO 30 SECONDS. GATE FLUID UNDER THE ROLL FILM HOWEVER DID NOT EVAPORATE AS READILY AS THE LIQUID ABOVE THE FILM UNTIL THE ROLL FILM WAS LIFTED FROM THE MASK. DURING THE LIQUID GATE TESTING IT WAS OBSERVED THAT PLATEN NUMBER TWO DID NOT EJECT A CHIP AT THE PROPER TIME. THE CIRCUITS WERE IN QUESTION WERE MONITORED AND THE UNIT WAS OPERATED. NO USE FULL INFORMATION WAS COLLECTED.					
12/12/67	THE X AXIS COUNTER WAS MONITORED FOR MISCOUNTING. NO MALFUNCTION OCCURRED. THE X-AE POWER AMPLIFIER WAS MONITORED FOR THE MALFUNCTION OF 12/13/67. IT DID NOT REOCCUR. THE FILM FOOTAGE COUNTERS WERE EXERCISED THE MEASURING ERROR WAS LESS THAN .1%. THE CIRCUITS IN QUESTION IN THE CHIP MALFUNCTION WERE MONITORED WHILE APPROXIMATELY 150 CHIPS WERE RUN THROUGH THE MAGAZINE. THE CHIP MALFUNCTION DID NOT REOCCUR.	359.5	359.1	16901	17217	RG.
12/18/67	REINSTALLED REWORKED EXPOSURE LAMP HOUSING. LAMP WOULD AGAIN NOT FIRE. EXAMINATION OF THE CONNECTION PIN OF THE LAMP GROUND LEAD IN THE LAMP HOUSING REVEALED ARC DAMAGE TO THE PIN AND CARBON DEPOSITS ON THE CABLE. THE CABLE TO GROUND WAS BY PASSED BY WITH A CLIP LEAD AND THE LAMP THEN FIRE	359.1	360.8	17217	17224	RG.

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			START	END	START	END		
							WAS REMOVED, AND THE DAMAGED GROUND LEAD WAS REPLACED. THE MATING HALF OF THIS LEAD IN THE PRINT CONSOLE WAS INSPECTED FOR DAMAGE AND AND CLEANED. THE HOUSING WAS REINSTALLED AND FIRED SUCCESSFULLY. WORK WAS DONE ON THE ELECTRONIC CONSOLE TO ALLOW THE FITTING OF THE AIR COOLING FANS DIRECTLY BELOW THE THREE DIGITAL DRAWERS: 1A3A6, 1A3A2 + 1A3A8.	
12/14/67			360.8	362.1	1722	17651	APPROXIMATELY 200 CHIPS WERE RUN THROUGH THE UNIT IN AN ATTEMPT TO GET A REOCCURANCE OF THE "STICKY" OPERATION OF PLATEN 2 AS EXPERIENCED ON 12/14/67. THE PROBLEM DID NOT REOCCUR. DURING THE ABOVE TESTS, THE EXPOSURE LAMP CIRCUITRY WAS TURNED ON TO CHECK RELIABILITY OF LAMP FIRING. DIFFICULTY WAS EXPERIENCED IN FIRING THE LAMP; PARTICULARLY ON SHOTS THAT WERE ATTEMPTED AFTER THE LAMP WAS ALLOWED TO COOL FOR OVER 5 MINUTES. AS FIRING OF THE LAMP PROCEEDED, IT BECAME INCREASINGLY DIFFICULT TO FIRE THE LAMP. NO ARCING TO GROUND WAS VISIBLE INSIDE THE LIGHT HOUSING. ARCING WAS VISIBLE, HOWEVER, IN THE AZIMUTH COLUMN AS VIEWED FROM THE TOP OF THE UNIT. EXAMINATION OF THE HIGH VOLTAGE LEAD IN THE LIGHT HOUSING SHOWED NO APPARENT ARC DAMAGE.	RA
12/21/67			362.1	362.9	17651	17855	A NUMBER OF CHIPS WERE RUN THROUGH THE UNIT (APPROXIMATELY 100) IN AN ATTEMPT TO GET REOCCURANCE OF "STICKY" #2 PLATEN. THE PROBLEM DID NOT REOCCUR. THE PRINT CONSOLE WAS LIFTED VIA FORK LIFT AND THE LIGHT HOUSING SUPPORT WELDMENT WAS REMOVED FROM THE BASE WELDMENT, AND THE CABLING AND HIGH VOLT.	RA

DATE	TESTS , Approved For Release 2011/05/03 : CIA-RDP78B04747A000800010002-1 CORRECTIVE ACTIONS IF APPLICABLE REMARKS	START		END		CYCLES		7 S/L
		START	END	START	END	START	END	
	OBVIOUS ARC MARKS WERE NOT BE FOUND. THE LEADS WERE RECONNECTED TO THE SUPPORT WELDMENT AND THE LAMP CIRCUITRY WAS FIRED. ARCING FROM THE BASE OF THE HIGH VOLTAGE CONNECTOR WHERE THE HIGH VOLTAGE LEAD JOINED THE CONNECTOR WAS OBSERVED.							
12/22/67	* THE STAINLESS STEEL EPOXIED SEAL ON THE FLUID CHAMBER OF THE 80MM MASK WAS REMOVED AND AN "O" RING SEAL WAS PLACED ON THE FLUID CHAMBER AND THE CHAMBER WAS TESTED ON THE IN BENCH FOR LEAKS. AT IN ZERO PRESSURE, NO LEAKS AROUND THE SEAL APPEARED. WHEN SHOP AIR OF ABOUT 10 PSIA WAS APPLIED TO THE CHAMBER THE "O" RING SEAL ON THE CHAMBER LEAKED HEAVILY. THE DECISION ON THE PRACTICALITY OF THIS APPROACH WILL BE RESERVED UNTIL THE MASK IS TRIED IN THE PRINTER AND WITH VARIOUS SIZE "O" RING SEALS. CHIPS WERE RUN THROUGH THE UNIT IN AN ATTEMPT TO GET A REOCCURANCE OF THE "STICKY" OPERATION OF PLOTEN. THE MALFUNCTION DID NOT OCCUR.	362.4	364.4	17855	18265			E.G.
12/26/67	THE 80MM MASK WAS TRIED ON THE UNIT AND CHIPS WERE RUN WITH THE LIQUID GATE IN OPERATION. THE "O" RING ON THE MASK LIQUID CHAMBER SEEMED TO OPERATE SATISFACTORILY IN THE NORMAL OPERATIONAL MODE OF THE UNIT. A TOTAL OF FIVE 30 CHIP RUNS WERE MADE WITH THE LIQUID GATE IN OPERATION (85% FREON 113-15% TETRACHLOROETHYLENE) DURING THE FIRST TWO RUNS, 1 OUT OF 10 CHIP WERE CAUGHT IN AN "S" SHAPED BOW IN THE CHIP BENDING GATE AT STATION FOUR. THE ANTI-"S" BOW FINGER WAS ADJUSTED. ON RUNS 3,4+5 THE "S" BOW DID NOT OCCUR. ON THE FOURTH RUN, ONE CHIP HOLDER DID NOT	364.4	366.1	18265	18756			20

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		START	END	START	END	
CORRECTIVE ACTIONS IF APPLICABLE						
REMARKS						
	A QUICK CHECK USING A BREADBOARD AIR DRY NOZZLE ARRAY INDICATED THAT IT SEEMS QUITE FEASIBLE TO DRY THE UNDER SIDE OF THE INPUT ROLL FILM USING AN AIR JET OR NOZZLE. PLACEMENT AND DESIGN OF SUCH A SYSTEM SEEMS BY THE ABOVE EXPERIMENTS TO BE IMPORTANT BUT NOT HIGHLY CRITICAL. DURING THE ABOVE DAYS TESTING, IT WAS NOTED THAT THE LINEAR JMC SOLENOID OCCASIONALLY HAD ITS PLUNGER HANG UP IN THE SOLENOID BODY. THIS SOLENOID IS USED TO DRIVE THE CHIP BENDING GATE DOWN TO CAPTURE THE CHIP AT STATION FOUR AS THE PLATEN RETRACTS.					
12/27/67	THE FOLLOWING TEST RUNS WERE PERFORMED. LIQUID GATE WAS NOT IN OPERATION. <u>RUN 2</u> THIRTY CHIP HOLDERS WERE USED. OLD CHIPS WERE IN CHIP CASSETTE. A NUMBER OF CHIPS WERE MISSED AT STATION 4. I.E. THEY WERE NOT CAUGHT BY THE UPPER CHIP BENDING GATE. THIS WAS ATTRIBUTED TO TWO THINGS 1) THE "STICKY" CHIP BENDER SOLENOID AND 2) THE FACT THAT THE AIR SUPPLY TO BLOW THE CHIP OFF THE PLATEN IS OVERLOADED BY THE AIR DRAIN CAUSED BY HAVING THE LIGHT HOUSING OUT FOR REPAIR. * <u>RUN 2</u> THE INTERFERENCE IN THE CHIP BENDING SOLENOID WAS ELIMINATED. A RUN OF 30 OLD CHIPS PERFORMED SATISFACTORILY. <u>RUN 3</u> A RUN OF NEW CHIPS WAS ATTEMPTED. THE CHIPS DIDNOT DROP TO ANY WORKING DEGREE. IT WAS NOTED THAT THE DAY WAS DRY AND COLD. <u>RUN 4</u> TECHNICIAN BREATHED INTO	366.7	366.5	18756	19939	RQ.
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	CORRECTIVE ACTIONS IF APPLICABLE	START TIME	END
	REMARKS		
	REDUCE STATIC ELECTRICITY, SHOULD THIS BE THE PROBLEM. THERE WAS A MARKED IMPROVEMENT IN DROPPING. IT SHOULD BE NOTED HOWEVER THAT SOME OF THESE CHIPS HAVE BEEN ONCE USED.		
	<u>RUN 5</u> USING THE SAME CHIPS IN THE ABOVE TWO RUNS, THE UNIT RAN SATISFACTORILY UNTIL THE 18TH CHIP FELL BACK OUT OF THE CHIP BENDING GATE AT STATION FOUR. IT WAS LOADED ON THE NEXT CYCLE. THE 22ND CHIP ALSO DID NOT LIE PROPERLY IN THE BENDER GATE AND CAUSED THE RUN TO BE STOPPED. IT SHOULD BE NOTED THAT THE UNIT IS STILL OPERATING WITH OVERLOADED AIR SUPPLY.		
	<u>RUN 6</u> THE UNIT OPERATED SATISFACTORILY FOR 20 CHIPS, THEN A JAM OCCURRED IN THE CHIP CASSETTE.		
	<u>RUN 7</u> THE LIQUID GATE WAS PUT INTO OPERATION. THE UNIT RAN SATISFACTORILY HOWEVER, IT WAS NOTED THAT THE PLATENS SHOWED SOME HESITATION ON RETRACTING. WHEN THE MAGAZINE WAS PUSHED BACK A NUMBER OF CHIPS WERE LEFT IN THE MASK AREA APPARENTLY HAVING BEEN STRIPPED OFF THE PLATENS BY THE FILM TO FILM LIQUID SEAL.		
	<u>RUN 8</u> THE LIQUID GATE WAS NOT IN OPERATION. THE INNER CAN OF THE CHIP CASSETTE WAS ADJUSTED TO COMPENSATE FOR THE UNEQUAL EXTRACTION THAT HAS BEEN THE PROBLEMS IN PREVIOUS CASSETTE JAMS. THE OPERATION SEEMED SOMEWHAT IMPROVED.		
	<u>RUN 9</u> THE LIQUID GATE WAS NOT IN OPERATION. A RUN OF APPROXIMATELY 20 CHIPS WAS HANDLED SATISFACTORILY AND THEN A CHIP MISSED A HOLDER.		
	<u>RUN 10</u> THE LIQUID GATE WAS NOT		

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	REMARKS	TIME	MIN	SEC	END		5
*	OUTSET OF THE RUN, THE LATCH MECHANISM ON THE LOWER TRANSPORT ARM BROKE. IT SHOULD BE NOTED THAT THE OCCASSIONAL MISS OF A CARD GOING INTO A HOLDER MAY HAVE BEEN A SYMPTOM OF THE BEGINNING OF THE ABOVE LATCH FAILURE.						
12/26/67 *	THE LOWER LATCH MECHANISM WAS REMOVED AND THE SHEARED LATCH MOUNTING PIN WAS REPLACED. THE DRAWERS ON THE DIGITAL SIDE OF THE ELECTRONICS CABINET WERE REPLACED ALONG WITH THE NEW FAN DECK. THE TEMPERATURE RISE AS A FUNCTION OF TIME WAS RECORDED WITH THE UNIT ON AND THE DOORS CLOSED. THE TEMPERATURE RISE WAS NOTICEABLY LESS THAN WITHOUT THE FAN DECK IN OPERATION. DURING THE TEMPERATURE TESTS, THE AUTO DIGITAL CONTROL CIRCUITS AND DRIVES AND THE MANUAL Y-DRIVE WERE EXERCISED FOR SYMPTOMS OF TEMPERATURE FAILURE AND FOR THE INTERMITTANT Y AXIS COUNTING EXPERIENCED EARLIER IN THE MONTH. NO SUCH SYMPTOMS OCCURRED.	368.5	373.5	19349	19349		RB
12/29/67 *	THE LOWER LATCH MECHANISM WAS REINSTALLED AND THE OPERATION OF THE ARM WAS CHECKED. FINAL CHECKING OF THE TRANSPORT WILL BE DONE WHEN THE PRINT MAGAZINE IS IN OPERATION. A 4.8 HOUR TEMPERATURE RUN WAS MADE TO CHECK THE TEMPERATURE AT EIGHT LOCATIONS IN THE DIGITAL AREA. THESE TEMPERATURE TIME CURVES ARE PRESENTLY IN THE HANDS OF WM. GADDY. DURING THIS TEMPERATURE RUN, THE UNIT WAS RUN THROUGH THE FULL DIGITAL SEQUENCE, I.E. TAPE READING, SERVO POSITIONING, SECURITY CLASSIFICATION, NUMBER OF PRINTS, CHARACTER GENERATION. IN ADDITION, THE MANUAL Y OPERATION	373.5	379.8	19435			RB

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REMARKS					
	INTERMITTANT COUNTING PROBLEM. ALL OF THESE OPERATIONS WERE SATISFACTORY. SAMPLES OF THE CHARACTER GENERATION STRUCK ON GREEN PLOTTING PAPER (PEERLESS ROLL FILM) WAS SENT TO THE PROCESSING SECTION FOR TEST EXPOSURE. THE CHIP DROP MECHANISM WAS REMOVED AND WAS OPERATED ON THE BENCH. THE DROP MECHANISM OPERATED SATISFACTORILY WITH THIN OLD FILM BUT HAD DIFFICULTY IN EXTRACTING NEW FILM. THE MODE OF FAILURE ON NEW FILM WAS THAT EITHER ONE OR BOTH EXTRACTOR ROLLERS WERE SLIPPING ON THE FILM. MEASUREMENTS OF OLD AND NEW FILM ON FILM FRICTION COEFFICIENT WERE MADE, AND THE VALUES WERE 0.19 AND 0.41 RESPECTIVELY. IT WAS ALSO NOTED THAT THE RUBBER EXTRACTOR ROLLERS WERE BEGINNING TO SHOW SIGNS OF WEAR.				
1/2/68	Trials were made to determine the effectiveness of air bars for drying the under side of the target film. Running these bars using the complete air supply from the wall proved quite satisfactory. The character generation prints were returned and by visual inspection it was determined that increasing the hammer voltage on the machine readable and striking the hammers on the support (Shiny) side of master (Green Plotting film, Peerless Roll Leaf Co.) gave the best results. However, this will have to be confirmed in actual use tests as these samples were not photographed in the same manner as done in the unit.	379.8	384.6	14939	14939 <i>Lo</i>

Date	TESTS performed, corrective actions, REMARKS	JCS				SIG
		START	END	START	END	
1/4/68	The lamp housing with lamp was connected outside the unit. Thermocouples were placed inside the lamp housing to monitor the temperature. It was found that with a $\frac{1}{32}$ inch hole on the incoming air port of the cooling air for the lamp housing gave a max temperature for 36 PMTS of 150°F on the lamp shield tube 104°F on the metal base of the lamp and 85°F at the top of the lamp housing near the Delrin exhaust ports. The present entry port is $\frac{1}{8}$ inch and the temperatures were 130°F on the lamp shield 105°F on the base and 82°F on the Delrin. The entry air port will be changed to $\frac{1}{32}$ inch.	384.6	386.2	19624	19624	For
1/5/68	New rubber rollers were put in the chip drop mechanism. No significant improvement was noticed. Phasing the rollers so that one side of the chip pulls out at a time was tried and this gave fairly good results. The -12VDC power supply in the A7 drawer had new heat sinks attached and heat sink grease was applied to the base. After running 3 hr, the max temp rise was to 142°F this is below the max rated temp of 151°F. * Clemps were placed over the rubber O rings sealing the fluid channel in both masks. The seal was tested with approx 10 PSI and no leakage was observed.	386.2	392.2	19624	19624	For

REMARKS

DATE

18/68

ONE OF THE SETS OF NEW 190°, OR LARGE SEGMENT ROLLERS WERE REPLACED WITH NEW 45° (APPROX) OR SMALL SEGMENT ROLLERS. THESE ROLLERS WERE PHASED SUCH THAT THE SMALL SEGMENT ROLLERS WOULD NOT BEGIN TO EXTRACT THE CHIP UNTIL THE LARGE ROLLERS HAD REMOVED ONE SIDE OF THE CHIP FROM THE MAGAZINE. THIS OPERATION WAS NOT OVERLY SATISFACTORY IN THAT ON A NUMBER OF OCCASIONS THE TWO CHIPS WOULD BE EXTRACTED BY THE SMALL ROLLER AND THEN ON RETRACT, THE SECOND CHIP WOULD BE PUSHED UP THE INSIDE WALL OF THE CHIP CASSETTE.

THE LARGE SEGMENT ROLLERS WERE THEN DISCONNECTED FROM THE TORQUE DRIVE. A DIAL WAS ATTACHED TO THE LARGE SEGMENT ROLLERS. A NUMBER OF RUNS WERE ATTEMPTED. IT WAS FOUND THAT THE DROPPING WITH OLD CHIPS WAS QUITE SATISFACTORY WITH PROPER PHASING OF THE ROLLERS. THESE TESTS WERE DONE WITHOUT PROPER STOPS ON THE DISCONNECTED ROLLERS.

* THE NEW X-RAY AMPLIFIER WAS INSTALLED AND THE CONTROLS WERE READJUSTED TO ACCEPT THE NEW AMPLIFIER.

11/4/68

APPROXIMATELY 10 RUNS OF 150 OLD CHIPS PER RUN WERE OPERATED ON THE CHIP DROP MECHANISM. OPERATION WAS SATISFACTORY AFTER SOME STOPS WERE ADDED TO THE DISCONNECTED ROLLERS TO LIMIT THE TRAVEL TO APPROXIMATELY 260°.

WHEN NEW CHIPS WERE RUN THROUGH THE CHIP DROP, LESS SATISFACTORY RESULTS WERE ACHIEVED. CONSECUTIVE MULTIPLE DROPS OF 5 OR 10 CHIPS WERE COMMON. THIS EFFECT SEEMED TO BE REDUCED ALMOST TO ZERO BY SHARPLY RAPPING THE FRESH FILM ON ITS EDGE ON THE BENCH BEFORE LOADING.

392.2 392.3 15624 15628 25.

393.3 393.4 15628 15628 LU

DATE	MALFUNK Approved For Release 2011/05/03 : CIA-RDP78B04747A000800010002-1	ETT	# CYCLES	END	J-4
ACTIONS, REMARKS		38.9	399.7	19628	19628
1/10/68	WEIGHTS OF APPROXIMATELY 116 ± 16 WERE PLACED IN THE CHIP CASSETTE. THEIR EFFECT WAS NEGLIGIBLE. RUBBER TABS WERE PLACED IN THE CASSETTE JUST BEHIND THE FOUR METAL CHIP HOLDING ROLLERS. THE EFFECT OF THESE TABS CAUSED A REDUCTION IN CHIP DROP RELIABILITY. PROVISIONS WERE MADE FOR THE MOUNTING OF A SOLENOID TO DRIVE THE DISCONNECTED CHIP DROP ROLLERS. NEW CABLES WERE RECEIVED AND INSTALLED ON THE EXPOSURE LAMP HOUSING.				
1/11/68	THE PRINT CONSOLE WAS RAISED AND THE REINSTALLATION OF THE MODIFIED EXPOSURE LAMP HOUSING WAS BEGUN. DROPPING CHIPS USING A SOLENOID TO DRIVE THE PREVIOUSLY DISCONNECTED SET OF CHIP DROP ROLLERS PROVED UNSUCCESSFUL. A VERY LARGE NUMBER OF BUTTER ^{MULTIPLE} DROPS WERE OCCURRING. A TORQUER WAS INSTALLED IN PLACE OF THE SOLENOID AND A NUMBER OF RUNS WERE PERFORMED. AN OCCASIONAL HANGUP, I.E. CHIP COMING OUT OF THE CASSETTE ON ONLY ONE SIDE, WAS NOTICED. THE RATE OF OCCURRENCE OF A HANGUP WAS APPROXIMATELY 1 IN 25 CHIPS. A RUN OF NEW CHIPS WAS ATTEMPTED. THE ENTIRE BATCH OF NEW CHIPS MULTIPLE DROPPED FROM THE CASSETTE IN QUANTITIES OF 3, 4 & 5.	39.7	399.7	19628	19628
1/12/68	INSTALLATION OF THE REWORKED EXPOSURE LAMP HOUSING AND HIGH VOLTAGE CABLING WAS COMPLETED AND A NUMBER OF TEST FIRINGS WERE MADE. THE LAMP FIRED SATISFACTORILY. ALL FUNCTIONS WERE EXERCISED AND PERFORMED SATISFACTORILY. THE PREVIOUS BELT LINKAGE BETWEEN THE TORQUER AND THE DISCONNECTED	39.7	400.3	19828	19628

DATE	MALFL Approved For Release 2011/05/03 : CIA-RDP78B04747A000800010002-1	ETI	#CYCLES	By
	ACTIONS, REMARKS	STAGE	ENV	ENV
	SET OF CHIP DROP ROLLERS (RATIO 23:1) WAS REPLACED BY A GEAR RATIO OF APPROXIMATELY 3.75:1. THIS SEEMED TO IMPROVE CHIP DROP PERFORMANCE ALTHOUGH AN OCCASIONAL MULTIPLE DROP AND "HANGER" DID OCCUR.			
1/13/68	REPLACED ALL COVERS AND PREPARED UNIT FOR CHARACTER GENERATOR EXPOSURE TESTING. DURING THESE TESTS, RAW CHIPS WERE LOADED MANUALLY SINCE THE CHIP DROP MECHANISM WAS REMOVED FOR BENCH TESTING. PEERLESS ROLL FILM GREEN PLOTTING PAPER WAS LOADED INTO THE CHARACTER GENERATOR SHINY SIDE TOWARD THE HAMMERS, "EMULSION" SIDE TOWARD THE FONT WHEEL. A NUMBER OF SHOTS OF THE CHARACTER GENERATOR INPUT WERE RUN WITH VARIOUS SETTINGS OF C.G. EXPOSURE ADJUSTMENT RESISTOR. RESULTS WERE COMPARABLE WITH THE EXPOSURE RESULTS ACHIEVED BY THE PHOTO PROCESSING GROUP IN BENCH TESTS. SOME SMALL AMOUNT OF SCRATCHING OF THE "EMULSION" SIDE OF THE GREEN PLOTTING PAPER WAS NOTED. THE UNDER SPRAY NOZZLES WERE ADDED TO THE PRINT CONSOLE	400.3	403.1	1/18/68 1970/1 RA
1/18/68	ADDITIONAL TESTING OF THE CHARACTER GENERATOR FOR OPTIMUM EXPOSURE WAS PERFORMED WITH THE SHINY SIDE OF THE PLOTTING PAPER TOWARD THE FONT WHEEL AND ALSO WITH INCREASED HAMMER FORCE. INCREASING HAMMER FORCE HAD THE APPARANT EFFECT OF SHARPENING THE IMAGERY. THERE WAS NO APPRECIABLE DIFFERENCE CAUSED BY STRIKING THE SHINY SIDE ON THE FONT WHEEL AS FAR AS THE IMAGE WAS CONCERNED. HOWEVER, THE SCRATCHING WAS REDUCED. A TEST WAS RUN ON THE CHARACTER GENERATOR USING TWO LENGTHS OF PLOTTING PAPER LAID "EMULSION" SIDE	403.1	404.7	1/17/68 1970/1 1976/2

DATE	MALFU Approved For Release 2011/05/03 : CIA-RDP78B04747A000800010002-1	ET/	FCYCLD	1972	1973	R. G.
ACTION, REMARKS		START	END			
	TO EMULSION SIDE AND PLACED IN THE CHARACTER GENERATOR I.E. USING A DOUBLE THICKNESS OF PLOTTING PAPER. PHOTOGRAPHIC TESTS WERE RUN. THE STRUCK TO UNSTUCK PORTIONS OF THE OUTPUT PHOTOS SHOWED A MARKED INCREASE IN CONTRAST. ADDITIONAL TESTING WAS DONE IN THE CHIP DROP AREA. RETAINING HOOKS WERE INSTALLED IN THE CASSETTE MIDWAY ALONG THE 5" END SIDE OF THE INNER CAN TO ELIMINATE MULTIPLE DROPS. OLD CHIPS DROPPED SATISFACTORILY. THE 8 RETAINING ROLLERS IN THE INNER CAN WERE REMOVED. OLD CHIPS DROPPED SATISFACTORILY.					
1/16/68	THE VALVING & WIRING FOR THE LOWER LIQUID DRY BAGS WERE INSTALLED AND THE PLUMBING WAS INSTALLED. A NUMBER OF RUNS WERE MADE USING NEW CHIPS WITH THE SIDE RETAINING HOOKS IN PLACE AND THE RETAINING ROLLERS STILL REMOVED. THE NEW CHIPS SHOWED A LARGE NUMBER OF MULTIPLE DROPS. A NUMBER OF CHIPS WERE RUN THROUGH THE CHIP DROP IN THE DARK ROOM. THESE WERE EXPOSED TO DENSITIES OF 2.0, 1, 0.5 AND FOG OR CLEAR AND THESE CHIPS WERE DEVELOPED (AT $\gamma = 1$) AND EXAMINED FOR PRESSURE MARKS. THESE CHIPS EXHIBITED NO PRESSURE MARKS. ADDITIONAL EXPOSURE CHECKING OF THE CHARACTER GENERATOR WAS DONE USING A DOUBLE LAYER OF GREEN PLOTTING PAPER. RESULTS WERE SHOWED MORE CONTRAST BETWEEN STRUCK & UNSTRUCK PORTIONS THAN DID SINGLE LAYER PLOTTING PAPER RESULTS	409.7	407.3	19762	19793	16

DATE	MALFU Approved For Release 2011/05/03 : CIA-RDP78B04747A000800010002-1 ACTIONS, REMARKS	ET	TIME	#C	CYCLES	REMARKS
11/17/68	DURING THE AUTOMATIC EXERCISING OF THE UNIT A +6 VOLT POWER SUPPLY FUSE WAS BLOWN. IT WAS REPLACED AND THE UNIT FUNCTIONED NORMALLY. THE LOGIC RESET FUNCTION ALSO FAILED DURING ONE PERIOD OF OPERATION, HOWEVER OPERATION RETURNED TO NORMAL BEFORE THE SOURCE OF THE PROBLEM COULD BE DISCOVERED. WORK WAS BEGUN ON SETTING THE END OF FILM SWITCHES FROM TO ACTUATE BETWEEN 10 AND 20 FEET FROM THE END OF FILM. THE LOWER LIQUID DRY BARS WERE CHECKED FOR DRYING CAPABILITY AND PERFORMED SATISFACTORILY. THE SOURCE OF AIR SUPPLY LOADING WITH THE ENTIRE UNIT OPERATING FROM ONE WALL OUTLET WAS INVESTIGATED. PRESSURE READINGS TAKEN AT VARIOUS PLACES IN THE AIR SYSTEM INDICATED THAT THE SOURCE OF THE PROBLEM WAS THE LUBRICATOR ON THE WALL OUTLET. THIS WAS REMOVED, & THE UNIT PERFORMED SATISFACTORILY.	407.3	410.2	19793	19810	20
11/18/68	THE WARNING LIGHT INDICATOR FOR IMPROPER MASK SIZE AND MAGAZINE POSITION WAS CHECKED IN ACCORDANCE WITH P 5.2.3.4 OF THE ATP AND WAS FOUND TO BE SATISFACTORY. THE END OF FILM SWITCHES WERE CHECKED IN ACCORDANCE WITH P 5.2.4.4 AND 5.2.4.5. ALL END OF FILM LIGHTS ACTUATED BETWEEN 10 AND 20 FEET FROM END OF FILM. THE UPPER AND LOWER FILM FOOTAGE COUNTERS WERE CHECKED FOR METERING ACCURACY BOTH AXIS HAD A METERING ACCURACY OF 0.4 FT PER 50 FT RUN OR BETTER.	410.2	416.3	19810	19812	20

DATE	MALFUNCTION, ACTIONS, REMARKS	TIME	DURATION	TOTAL	COUNT	REMARKS
11/19/69	CALIBRATION TESTS WERE DONE ON THE X AND Y AXIS. THE X AXIS WAS FOUND TO BE 3 BITS SHORT OUT OF 4,911 AND 2 BITS SHORT OUT OF 2976 OR 0.006% OVERSIZED. THE Y AXIS WAS FOUND TO BE 1 BIT SHORT OUT OF 1190 OR UNDER 0.08%. EXERCISING OF THE Y AXIS ALSO SHOWED THE OCCURRENCE OF THE Y AXIS LOSS OF COUNTS EXPERIENCED.	41.6	440.1	1581.1	17040	OK
11/24/69	ADDITIONAL CHECKING OF THE Y AXIS SHOWED THE COUNTING ERROR TO BE A FUNCTION OF Y AXIS VELOCITY AND DIRECTION OF TRAVEL. THE PROBLEM ALSO SEEMED TO BE ASSOCIATED WITH THE TENS DECIDE. THE UPPER OILY AIR BARS WERE REMOVED FOR REWORK, SINCE ON A PRIOR DATE RUN WITH THE AIR LUBRICATION REMOVED FROM THE WALL AIR SUPPLY, THE UPPER BARS DEVELOPED LEAKS BECAUSE OF THE HIGH PRESSURE (45 PSI AS OPPOSED TO APPROXIMATELY 8) AT THE EPOXY SEAL OF THE CHAMBERS. THE UNITS WERE RESEALED AND SCREWS WERE USED TO CARRY THE LOAD.	42.6	431.1	1582.1	15862	OK
11/24/69	NUMEROUS CHECKS WERE PERFORMED ON THE Y AXIS TO LOCATE THE SOURCE OF THE OCCASIONAL COUNTING ERROR. TESTING REVEALED THAT THE PROBLEM WAS RELATED TO Y AXIS VELOCITY AND DIRECTION. Y AXIS VELOCITY WAS LIMITED TO 50% AND THE Y AXIS DIFFICULTY COULD NOT BE CAUSED TO OCCUR. MORE SENSITIVE REED RELAYS WERE PUT IN THE FILM FOOTAGE COUNTER CIRCUITRY TO INSURE FILM FOOTAGE COUNTING ACCURACY.	43.7	435.7	1582.1	15862	OK
11/24/69	PERIODIC CHECKS WERE MADE ON THE Y AXIS. TWO COUNTING ERRORS WERE NOTED ONE IN THE MORNING IMMEDIATELY AFTER TURN ON AND ONE IN THE AFTERNOON IMMEDIATELY AFTER TURN ON AFTER LUNCH.	435.7	435.6	15862	15862	

DATE	MALFUNCTIONS, ACTIONS, REMARKS	START	STOP	DINLET	END	SHEET
	THE UPPER + LOWER AIR DRY BARS WERE REINSTALLED ASSEMBLY OF THE CHAMBERS TO THE CHIP DROP MECHANISM WERE UNDERWAY					154
7/25/69	THE REVISED CHIP DROP MECHANISM WAS WIRED AND AN ADDITIONAL WIRE WAS ROUTED IN THE PRINT MAGAZINE TO ACCEPT THE REVISED CHIP DROP MECHANISM PERIODIC CHECKS WERE MADE OF THE Y AXIS. AFTER A NUMBER OF ON-OFF CYCLES, VERY LARGE COUNTING ERRORS WERE EXPERIENCED IN THE Y AXIS, LOGIC RESET WOULD NOT FUNCTION AND AFTER A NUMBER OF ADDITIONAL ACTUATIONS OF THE POWER ON SWITCH RESISTOR R10 ON REED RELAY CARD 316 IN THE A6 DRAWER BURNED OPEN. A CHECK OF THE ASSOCIATED CIRCUITS WAS MADE AND NOTHING WAS FOUND TO BE SUPERFICIALLY WRONG. A SPARE RELAY CARD WAS INSTALLED AND THE UNIT WAS AGAIN TURNED ON AND FUNCTIONED NORMALLY. UPON RAPID CYCLING OF THE PWR ON SWITCH R10 ON THE REPLACEMENT CARD BURNED OPEN. IT SHOULD BE NOTED THAT AT THIS TIME, THE UNIT WAS BEING OPERATED WITH THE DIGITAL DRAWERS REMOVED AND PLACED AT AT THE REAR OF THE ELECTRONICS CABINET WITH THE INTER-CONNECTING CABLES PASSED THROUGH THE REAR PANELS OF THE CABINET SO THAT REWORK OF THE REAR DRAWER SLIDES COULD BE DONE TO ALLOW EASIER LOCKING AND UNLOCKING OF THE DRAWER LOCKS.	439.6	443.6	19862	19812	20.
1/26/69	THE DIGITAL DRAWERS WERE RELEASED TO THEIR NORMAL POSITION IN THE DIGITAL CABINET. TESTING FOR THE FAILURE OF REED RELAY ^{CARD} 316 IN A6 THEN PROCEEDED. BENCH TESTING TO OF THE CHIP DROP MECHANISM WAS BEGUN.	443.6	447.3	19862	19812	20.

DATE	MALFUNCTIONS, ACTIONS, REMARKS	START	TIME	DATE	END	13- 3
	REWORK OF ELECTRONIC DRAWER LOCKS PROCEEDED					
1/27/68	TESTING AND ADJUSTING OF THE CHIP DROP MECHANISM MECHANISM WERE PERFORMED ON THE BENCH. TESTING OF THE DIGITAL AREA SHOWED THAT A GROUND ON REED RELAY CARD 316 IN DRAWER A6 WAS MISPLACED. A WIRING CORRECTION WAS MADE AND THE UNIT PERFORMED SATISFACTORILY.	447.3	451.0	19862	19862	RR.
1/29/68	THE Y AXIS WAS EXERCISED AND CHECKED FOR COUNTING ERRORS PERIODICALLY. THE Y AXIS WAS FOUND TO OPERATE SATISFACTORILY. THE UNIT WAS CYCLED REPEATEDLY A NUMBER OF TIMES IN AN ATTEMPT TO GET A RECURRENCE OF THE FAILURE OF R10 ON CARD 316 IN THE A6 DRAWER. NO FAILURE OCCURRED. THE REVISED CHIP DROP WAS WIRED INTO THE PRINT MAGAZINE AND A DRY RUN WAS MADE TO CHECK THE CHIP DROP OPERATION. A FULL DIGITAL CHECK WAS MADE, INCLUDING THE CHARACTER GENERATOR TO INSURE ALL OPERATIONS WERE WORKING.	451.0	451.5	19862	19958	RO
1/30/68	A NUMBER OF RUNS WERE MADE USING OLD CHIPS. RUN 1 - 30 CHIPS WERE CALLED FOR AFTER 11 CHIP DROPS, CHIPS WOULD NOT COME OUT OF THE CASSETTE FOR A NUMBER OF CYCLES. OUT OF A TOTAL OF 15 GOOD CHIP DROPS, 11 MULTIPLE CHIPS DROPPED OUT EXCESS CHIP SHUTE. ON THE 15TH CHIP, A CHIP HOLDER JAMMED IN THE DEVELOPMENT CAN. A TOTAL OF THREE HOLDERS JAMMED IN DROPPING. RUN 2 - CLEAN ROLLERS; CALLED FOR 30 CHIPS. MISSED DROPPING APPROXIMATELY	451.5	456.4	19958	20235	R.G.

DATE

MALFUNCTIONS, ACTIONS, REMARKS

EVERY OTHER CHIP. MISSED ONE CHIP IN CATLN GATE

RUN 3 - PADDING RESISTORS IN TORQUE CIRCUITS WERE PROPERLY TRIMMED AND A RUN OF 8 CHIPS WERE CALLED FOR; 8 CHIPS DROPPED SATISFACTORILY. HAD A CHIP HOLDER HANG UP HOWEVER.

FOUR MORE RUNS WERE MADE CHIPS DROPPED SATISFACTORILY BUT HOLDERS WERE HANGING UP ABOUT MIDWAY THROUGH THE MAGAZINE LOAD. IT SHOULD BE NOTED THAT FOR THESE RUNS, THE CHIP DROP MECHANISM HAS BEEN SHIMMED ABOUT ONE HALF INCH ABOVE THE PRINT MAGAZINE. (OLD CHIPS)

1/31/68

THE CHIP DROP UNIT WAS LOWERED; I.E. THE ONE HALF INCH SHIMS WERE REMOVED. A NUMBER OF RUNS WERE ATTEMPTED. BOTH NEW OR OLD CHIPS WOULD NOT DROP BECAUSE THE PLATEN WOULD NOT ALLOW SUFFICIENT CLEARANCE FOR THE CHIP TO DROP FROM THE SECOND SET OF ROLLERS.

THE CHIP DROP MECHANISM WAS SHIMMED UP ONE HALF INCH AGAIN. OLD CHIPS WERE ABLE TO BE DROPPED AGAIN, HOWEVER REGISTRATION WAS POOR.

2/1/68

THE AIR BARS WERE RECONNECTED AND CHECKED FOR DRYING TIME. DRYING TIME ON THE TOP OF THE FILM WAS APPROXIMATELY TEN SECONDS AND ON THE BOTTOM APPROXIMATELY TWO MINUTES. DURING THE AIR BAR TESTS, ON EPOXY SEAL AGAIN DEVELOPED A LEAK ON ONE UPPER AIR DRY BAR.

THE CHIP DROP MECHANISM WAS AGAIN LOWERED ONE HALF INCH BY REMOVING THE SHIMS. ONE OF THE ROLLERS ON SIDE TWO OF THE CHIP DROP WAS PHASED BACK TO ACT LIKE AN EXTRACTOR HOOK. DROPPING WAS RELATIVELY SATISFACTORY. IT WAS NOTICED THAT ON OCCASION THAT A NUMBER OF CHIPS WOULD REMAIN CAUGHT UNDER THE

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4564 459.2 20235 20596 CB.

459.2 462.3 20596 20813 CB

DATE	MALFUNCTIONS, ACTIONS, REMARKS	STACK KNO	STACK KNO	CYCLES	CYCLES	172A
	CHIP CASSETTE. CHIPS ALSO OCCASIONALLY WERE NOT COMPLETELY EJECTED FROM THE NUMBER TWO SIDE.					
2/2/68	THE CHIP DROP MECHANISM WAS REMOVED FROM THE UNIT AND THE LIMIT PIN WAS REMOVED FROM THE NUMBER TWO SIDE SO THAT MORE TRAVEL WOULD BE POSSIBLE OUT OF THE NUMBER TWO ROLLERS. ALSO, A THIRD ROLLER WAS ADDED TO THE NUMBER TWO SIDE TO ACT AS AN EXTRACTOR. WHILE THE CHIP ^{DROP} WAS DOWN, 5 RUNS ON HOLDERS WERE RUN THROUGH THE TRANSPORT CYCLES. IN ALL CASES, THE OPERATION OF THE HOLDER STACK WAS SLOW OR SLUGGISH IN THE VICINITY OF 15 HOLDERS REMAINING. FRICTION, ACCELERATING FORCE AND ANALYSIS OF OF STACK TRAVEL TIME INDICATE THAT THE TIME IT TAKES THE STACK TO MOVE FORWARD IS MARGINAL. THIS WAS VERIFIED BY TAKING TRAVEL TIME MEASUREMENTS THROUGH THE FULL RANGE OF HOLDER MAGAZINE CAPACITY. TWO NOTCHES WERE CUT IN THE PRINT MAGAZINE CASTING TO ALLOW ADDITIONAL CLEARANCE FOR THE HOLDERS TO CLEAR THE TRANSPORT ARMS DURING DROP.	462.3	462.9	20946 20813	20946	Ra
2/3/68	THE FOLLOWING RUNS WERE MADE ON THE CHIP DROP MECHANISMS RUN 1 - NEW CHIPS; CLEAN ROLLERS; CALLED FOR 12 CHIPS; GOT 6 GOOD DROPS THEN DROPPER JAMMED. WHEN CASSETTE WAS REMOVED, TWO CHIPS WERE SKEWERED ON THE REAR CHIP GUIDE, AND THREE CHIPS WERE LAYING ON TOP OF THEM. FOUR EXTRA CHIPS WERE EJECTED AT STATION TWO. RUN 2 - NEW CHIPS CALLED FOR 12, GOT 6 GOOD DROPS THEN JAMMED; IN THE CHIP DROP AREA WERE 1 CHIP SKEWERED ON THE REAR CHIP GUIDE WITH ONE CHIP ON THE	466.9	464.2	2109	21214	

DATE

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START ENJ

END ENP

REMARKS

OUT STATION 2.

* AT THIS POINT, A TIMING BELT ON THE NUMBER 1 CHIP DROP ROLLERS BROKE AND WAS REPLACED.

RUN 3 - 11 CHIPS WERE CALLED FOR. THERE WAS A LARGE NUMBER OF NO DROPS. A TOTAL OF 7 CHIPS GOT OUT OF THE CASSETTE SATISFACTORILY BEFORE THE ~~CH~~ PROPPER JAMMED. WHEN THE CASSETTE WAS REMOVED A CHIP WAS FOUND JAMMED UP THE #2 SIDE OF THE CAN, AND 4 CHIPS WERE LAYING ON THE ROLLERS. THERE WAS ONE MULTIPLE EJECTED AT STATION TWO.

RUN 4 - CALLED FOR 6 CHIPS, GOT 6 CHIPS WITH NO JAMS. 2 CHIPS WERE NOTCHED BY THE LEFT CHIP GUIDE. DURING DROPPING, MULTIPLE ~~HANGING~~ HANGING CHIPS WERE VISIBLE IN THE CAN.

RUN 5 - CALLED FOR 12 CHIPS; GOT 12 CHIPS OUT OF DROP. HAD 6 MULTIPLE CHIPS OUT AT STATION 2. ON THE 12TH CHIP, A HOLDER JAMMED GOING INTO DEVELOPMENT MAGAZINE. EXAMINATION OF THE CHIP HOLDERS SHOWED TOO NARROW A DIMENSION ON THE CHIP GROOVE ALLOWING THE CHIPS TO BELLY OUT BEYOND THE CONFINES OF THE CHIP HOLDER FAR ENOUGH TO CATCH ON THE PRINT MAGAZINE CASTING IN THE TRANSFER AREA.

RUN 6 - CALLED FOR 6 CHIPS; DROPPED 4 CHIPS + NO MORE. WHEN THE CASSETTE WAS REMOVED, A CHIP WAS FOUND JAMMED UP THE #2 SIDE OF THE CASSETTE. THREE MULTIPLE DROPS WERE DROPPED OUT AT STATION 2.

DATE	HALFWAYS	Approved For Release 2011/05/03 : CIA-RDP78B04747A000800010002-1	STATION	END	START	END	REMARKS
							THE AIR BARS WERE REMOVED FOR REPAIRS
2/6/68			469.2	4730	2124	21750	RH
							THE CIRCUITRY WAS MODIFIED SO THAT CHIP DROP OCCURRED AFTER FULL PLATEN EXTEND-
							RUN 1 - CLEANED ROLLERS; ONCE USED CHIPS CALLED FOR 6 CHIPS; GOT 6 CHIPS PROPERLY DROPPED; THE CHIP DROP DROPPED A CHIP APPROXIMATELY EVERY OTHER TRY.
							RUN 2 - CALLED FOR 6; ONCE USED CHIPS GOT 6 CHIPS PROPERLY DROPPED & MULTIPLE CHIPS OUT AT STATION 2. 4 CHIPS LEFT HANGING IN CAN.
							RUN 3 - CLEANED ROLLERS, ONCE USED CHIPS RETARDED #1 ROLLERS. CALLED FOR 16 GOT 16 PROPERLY DROPPED, 1 MULTIPLE DROP.
							RUN 4 - USED NEW CHIPS; CALLED FOR 18 CHIPS, GOT 18 DROPPED PROPERLY DID NOT DROP A CHIP APPROXIMATELY EVERY OTHER TIME. ON ONE ATTEMPTED DROP IT TOOK 7 TRIES TO GET THE CHIP TO DROP. FIVE MULTIPLE CHIPS WERE DROP OUT AT STATION TWO.
							RUN 5 - ONCE USED CHIPS; MISSED DROPPING CHIP EVERY OTHER TIME; AFTER 6 SUCCESSFUL DROPS, JAM OCCURRED AND NO MORE CHIPS WOULD DROP. WHEN CASSETTE WAS REMOVED, CHIP WAS FOUND UP THE NUMBER 1 SIDE OF THE CASSETTE.
							ON THE NUMBER 1 AND 2 SIDE ROLLERS, THE RUBBER WAS CUT BACK ON THE LEADING EDGE OF THE DRIVE ROLLERS AND ON THE TRAILING EDGE OF THE PUSHER OR EXTRACTOR ROLLERS.
							RUN 6 - ONCE USED CHIPS WERE USED;

DATE

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ACTIONS, REMARKS

 ETV
 STATION RUN PAUSE END

CALLED FOR 12 DROPS; GOT 12 SATISFACTORY DROPS; 2 MULTIPLE CHIPS WERE DROPPED OUT REAR; WHEN CASSETTE WAS RAISED, 2 CHIPS WERE FOUND IN THE CHIP DROP STATION.

CUT BACK MORE OF THE RUBBER ON THE LEADING EDGE OF THE NUMBER 1 ROLLERS.

RUN 8 - GOT 6 SATISFACTORY DROPS; RAN OUT OF CHIPS.

RUN 9 - ONCE USED CHIPS; CALLED FOR 8, GOT 8 GOOD DROPS; CALLED FOR 4 GOT 4 GOOD DROPS; CALLED FOR 6, GOT 6 GOOD DROPS.

RUN 10 - ASKED FOR JAM 18; GOT CHIP HOLDER JAM ON 18TH HOLDER IN THE TRANSPORT AREA; TWO MULTIPLE CHIPS WERE DROPPED OUT AT STATION 2.

RUN 11 - NEW CHIPS WERE USED; CLEANED ROLLERS; CALLED FOR 18; GOT 18 SATISFACTORY DROPS; AN ERROR IN CHIP COUNTING WAS OBSERVED TO OCCUR.

RUN 12 - SEMI NEW CHIPS WERE USED; 10 WERE CALLED FOR; 3 SATISFACTORY DROPS OCCURRED AND THEN NO MORE CHIPS WOULD DROP; WHEN THE CASSETTE WAS REMOVED, A CHIP WAS FOUND JAMMED UP THE NUMBER 2 SIDE OF THE CASSETTE.

RUN 13 - ONCE USED CHIPS; CALLED FOR 15; 3 SATISFACTORY DROPS OCCURRED AND THEN NO MORE CHIPS WOULD DROP; WHEN THE CASSETTE WAS REMOVED, A CHIP WAS FOUND JAMMED UP THE #2 SIDE OF THE CASSETTE.

RUN 14 - CLEANED ROLLERS, ONCE USED CHIPS WERE USED; CALLED FOR 10 DROPS, GOT 10 SATISFACTORY DROPS

DATE

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ACTIONS, REMARKS.

RUN 15- TWICE USED CHIPS WERE USED; CALLED FOR 16 DROPS; GOT 16 SATISFACTORY DROPS; ONE MULTIPLE CHIP WAS DROPPED OUT AT STATION TWO.

RUN 16- CLEANED ROLLERS; ONCE USED CHIPS WERE USED; CALLED FOR 16 DROPS; DROPPED 8 SATISFACTORY AND A CHIP WAS JAMMED UP THE NUMBER ONE SIDE OF THE CAN ENDING THE RUN.

RUN 17- ONCE USED CHIPS WERE USED; CALLED FOR 16 DROPS; DROPPED 8 SATISFACTORY AND THEN A CHIP WAS JAMMED UP ONE SIDE OF THE CASSETTE, ENDING THE RUN.

RUN 18- ONCE USED CHIPS (RUNS 18, 19, 20)
CALLED FOR 10, GOT 10 GOOD DROPS

RUN 19- CALLED FOR 6, GOT 6 GOOD DROPS

RUN 20- CALLED FOR 10, GOT 10 GOOD DROPS

RUN 21- PLACED CORK SHIMS ON BOTH SIDE OF THE CASSETTE INNER CAN (ON THE SHORT DIMENSION) TO STOP CHIPS FROM BEING PUSHED UP THE SIDES DURING DROP. CALLED FOR 18 DROPS; GOT 13 BEFORE JAM UP SIDE; 7 CHIPS WERE DROPPED OUT AT STATION 2. CORK THICKNESS-2 LAYERS OF $\frac{1}{16}$ EACH

RUN 22- CALLED FOR 18; GOT 4 SATISFACTORY DROPS AND RAN OUT OF CHIPS.

RUN 23- ONCE USED CHIPS WERE USED; CALLED FOR 11 DROPS; GOT 11 DROPS SATISFACTORY; GOT 5 MULTIPLE CHIPS DROPPED OUT AT STATION 2.

RUN 24- HALF OF THE THICKNESS OF CORK SHIM WAS REMOVED. CALLED FOR 15 DROPS; GOT 15 SATISFACTORY DROPS.

RUN 25- CALLED FOR 15 DROPS; GOT 15 SATISFACTORY DROPS

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T. END

ACTIONS, REMARKS

RUN 26 - CALLED FOR 15, GOT 15 SATISFACTORY DROPS.

RUN 27 - CLEANED ROLLERS; USED NEW FRESH CHIPS. CALLED FOR 16; JAMMED CHIP UP SIDE OF CAN AFTER 1 GOOD DROP

RUN 28 - NEW CHIPS; CALLED FOR 16; JAMMED ONE CHIP UP THE SIDE OF CAN AFTER ONE GOOD DROP.

ALL REMAINING CHIP HOLDERS WERE REWORKED I.E. HAD THE CHIP SLOTS MILLED DEEPER SO THAT CHIPS WOULD NOT PROTRUDE BEYOND THE OUTER DIMENSIONS IN THE HOLDERS.

THE 0.01M⁺ CAPACITOR IN THE 1A3A2 DRAWER ON CARD 113, PIN 30 TO GND (THE RESET LINE ON THE PRINTS PRINTED DEAD COUNTER) WAS CHANGED TO A 0.02M⁺ CAPACITOR. THIS WAS DONE TO ELIMINATE THE NOISE WHEN WAS ADVANCING THE CHIP COUNTERS.

2/7/67

HAD A TURRET JAM ON STARTUP CAUSED BY TURRET PLATENS BOUNCING OUT OF THE FULLY NESTED POSITION ON RETRACT. INVESTIGATION SHOW THAT RELAY K7, A PORTION OF WHICH IS USED TO PROVIDE A LOW IMPEDANCE PATH ~~SO THAT~~ TO THE RETRACT TORQUE SO THAT IT ACTS AS A DYNAMIC BRAKE AT ~~THE~~ THE END OF RETRACT, HAD FAILED. IT WAS REPLACED, AND THE SYSTEM FUNCTIONED NORMALLY.

RUN 1 - NEW CHIPS; COVERS ON. THE FOLLOWING RUNS WERE EXPERIENCED DURING AEC CALIBRATION TESTS. CALLED FOR 2 CHIPS TO DROP. NO CHIPS WOULD DROP.

RUN 2 - CALLED FOR 2 CHIPS FOR AEC. CHIPS DROPPED BUT TOOK 15 TRIES.

RUN 3 - RELAY K39 FAILED. PIN 7 OPENED. POSSIBLE SHORT THROUGH EXTERNAL SWITCH THAT WAS ~~REMOVE~~ USED TO MANUALLY DELAY PLATEN RETRACT

471.8

478.3

21750

22041

RA

DATE

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#CYCLES 12

REMARKS

START END START END

RUN 45 - LIGHTS BLINKED ON TWO OCCASIONS.
A DIRECT CAUSE OF THE WAS NOT FOUND.
IT SHOULD BE NOTED HOWEVER THAT
THERE IS SOME "JERRY WIRED" TEST
CIRCUITRY IN THE PRINT MAGAZINE

RUNS 6, 7, 8 - CHIPS WOULD NOT DROP

INTERSPERSED AMONG THE ABOVE
RUNS WERE 10 RUNS OF TWO CHIPS EACH
THAT WERE SATISFACTORY WITH THE EXCEPTION
THAT THERE WERE OCCASSIONAL PERIOD OF
5 TO 10 CYCLES WHERE A CHIP WOULD NOT
DROP.

2/8/68

THE FOLLOWING RUNS WERE MADE TO CHECK
AEC.

478.3 481.9 22041 22090 22

RUN 1, 2, 3 - TOTAL OF 6 CHIPS WERE CALLED
FOR; ALL DROPPED, BUT 25 CHIPS
WERE DROPPED OUT THE EXCESS
CHIP SHUTE AT STATION 2.

RUN 4 - CALLED FOR 2; GOT 2.

RUN 5 - CALLED FOR 2; GOT 2.

RUN 6 - WOULD NOT DROP CHIPS AT ALL.

RUN 7 - CALLED FOR 2; GOT 2

RUN 8 - CALLED FOR 2; GOT 2

RUN 9 - CALLED FOR TOTAL OF 6; GOT 5; LOST 4.

INPUT DENSITY	OUTPUT DENSITY	
	AUTO	10X
.36	1.0	.76
	1.0	.76
.62	.92	.72
	-	.74
.91	.72	.69
	.71	.72
1.42	.71	.72
	.76	.74

DATE

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#C102585

ACTIONS, REMARKS

2/9/68

AEC IN THE AUTO MODE WAS CHECKED
THE RESULTS ARE BELOW

481.4

485.3

22090

22171

RA.

INPUT DENSITY

OUTPUT DENSITY

.36

.73

.68

.71

.67

.62

.62

.71

.71

.91

.68

.64

1.92

.64

.62

.36

.68

.63

.62

.62

.76

.79

.91

.66

.66

1.92

.62

.62

THE CHIP DROP WAS REMOVED FOR
BENCH OPERATION AND FOR ROLLER READJUSTMENT.

2/10/68

THE CHARACTER GENERATOR HAMMER
ASSEMBLY WAS SHIMMED AND TEST PHOTOGRAPHY
WAS MADE TO FIND THE POSITION THAT WOULD
GIVE THE MOST UNIFORM CHARACTERS AND MACHINE
READABLE BLOCKS.

485.3

489.2

22171

22213

RA

THE X-AUTO SPEED CONTROL RESISTORS WERE
ADJUSTED TO PRODUCE MORE UNIFORM SERVO
RESPONSE THROUGHOUT THE FULL SERVO RANGE.

THE ROLLERS WERE CHANGED ON THE NUMBER
ONE SIDE OF THE CHIP DROP AND THE
UNIT WAS TESTED ON THE BENCH. AFTER A
NUMBER OF TEST RONS WITH BOTH OLD AND
NEW CHIPS, THE CHIP DROP WAS REINSTALLED
ON THE UNIT.

0072

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ETA

DCYCLD

3

ACTIONS, REMARKS

START

END

START

END

2/12/68

THE FOLLOWING CHIP DROP RUNS WERE MADE.

489.2

493.1

2223

22506

dt

RUN 1 - OLD CHIPS; ROLLER SIDE 1 DROPPING
RESISTOR 45 Ω , SIDE 2 20 Ω .
CALLED FOR 18 CHIPS; 18 CHIPS
DROPPED SATISFACTORILY; CHIP #17
DID NOT MAKE IT INTO HOLDER

RUN 2 - CALLED FOR 18 OLD CHIPS; DROPPED
13 CHIP #10 DID NOT MAKE HOLDER.

RUN 3 - CALLED FOR 18 OLD CHIPS; GOT 18

RUN 4 - CALLED FOR 9 OLD CHIPS; GOT 9

RUN 5 - RESISTOR ON #1 SIDE 40 Ω ; #2 SIDE 20 Ω
CALLED FOR 18 GOT 15 SATISFACTORILY
& THEN GOT HOLDER DAM

RUN 6 - REQUESTED 18 OLD; GOT 18

RUN 7 - NEW CHIPS; CALLED FOR 18 MISSED
PICKING 5, DROPPED 2 MULTIPLES
OUT EXCESS SHUTE

RUN 8 - RESISTOR ON #1 SIDE 35 Ω ; #2 SIDE
20 Ω . NEW CHIPS. CALLED FOR
14, PICKED A CHIP APPROXIMATELY
EVERY OTHER TRY. DROPPED ONE
CHIP OUT EXCESS SHUTE.

RUN 9 - RESISTOR ON #1 SIDE 35 Ω ; #2 SIDE
30 Ω . NEW CHIPS. CALLED FOR
6 CHIPS; PICKED APPROXIMATELY
EVERY OTHER TRY. GOT 6 CHIPS
OUT; DROPPED 4 OUT EXCESS
CHIP SHUTE.

RUN 10 - OLD CHIPS; CALLED FOR 6; GOT
6 SATISFACTORY DROPS.

RUN 11 - OLD CHIPS; CALLED FOR 4, GOT
4 SATISFACTORY DROPS

RUN 12 - NEW CHIPS; CALLED FOR 18,
PICKED A CHIP APPROXIMATELY

DATE	MALFUN ACTIONS, REMARKS	RTV	FCHC1000	21 END	53
	CHIPS SATISFACTORILY. DROPPED 15 CHIPS OUT THE EXCESS CHIP SHUTE. RUN 13 - CALLED FOR 18; OLD CHIPS PRINTED 10; HAD CHIP JAM GOING INTO HOLDER. DROPPED 2 CHIPS OUT EXCESS CHIP SHUTE. RUN 14 - OLD CHIPS; CALLED FOR 18 DROPPED 6 OUT EXCESS CHIP SHUTE;				
2/13/68	LIQUID GATE TESTS WERE PERFORMED TO INVESTIGATE WET CHIP HANDLING. A MIXTURE OF 85% FREON - 15% TETRACHLOROETHYLENE WAS USED. IT WAS DETERMINED THAT THE CHIP HANDLING WAS SATISFACTORY; PARTICULARLY IN THE EJECT STATION AND TRANSPORT AREA WHERE PROBLEMS WITH WET CHIPS WERE EXPERIENCED PREVIOUSLY. IT WAS NOTED DURING WET CHIP OPERATION THAT WHEN A CHIP WAS BROUGHT INTO CONTACT WITH THE INPUT FILM, THERE WAS OCCASIONALLY A HESITATION ON RETRACT OF FROM APPROXIMATELY $\pm$ TO $\pm$ OF A SECOND OF THE RETRACT CYCLE. INVESTIGATION SHOWED THAT HESITATION WAS THE RESULT OF INCREASED LOADING TO BREAK THE SEAL BETWEEN THE CHIP AND THE INPUT ROLL FILM. A NUMBER OF TEST WERE RUN, INCREASING THE PRESSURE IN THE LIQUID TANK, INCREASING FLOW RATE AND STARTING THE LOWER LIQUID SPRAY EARLIER BEFORE RETRACT STARTED. IT WAS FOUND THAT THE BEST RESULTS IN ELIMINATING THE RETRACT HESITATION WERE ACHIEVED BY INCREASING THE LOWER SPRAY FLOW RATE.	493.1	498.6	22506	22931 QA
2/14/68	THE REWORKED CHIP AREA WAS INSPECTED BY Q.C. THE "CRABS" WERE CLEANED UP AND SIGNED OFF BY Q.C. A NEW ROLLER WAS INSTALLED TO REPLACE THE WORN EXTRACTOR ROLLER ON THE NUMBER TWO SIDE.	498.6	501.1	22931	23121 QA

DATE	ACTIONS	ET/	#CYCLES	END	5j
	THE CHIP HOLDER CAN WAS REMOVED FOR REWORK OF THE PRESSURE PLATE SPRING. WIRING CLEAN UP WAS DONE ON THE NEW CHIP DROP CIRCUITRY				
2/15/68	WIRING CLEAN^{UP} ON THE CHIP DROP CIRCUITRY WAS FINISHED. THE VACUUM PUMP SEIZED UP A NUMBER OF TIMES AND HAD TO BE WORKED FREE BY HAND. HYDRAULIC LOCK IS SUSPECTED (CAUSED BY OVERFILLING PUMP WITH OIL). HOWEVER A NEW PUMP HAS BEEN ORDERED A NUMBER OF CHIPS (SO 250) WERE SENT TO THE PHOTO RESEARCH GROUP FOR EXPOSURE + DEVELOPMENT. D. ROHRER HAS FOUND THAT THERE IS A INHERENT CHARACTERISTIC IN THE FILM THAT PRODUCES MOTTLE OR BLOTCHING DURING DEVELOPMENT. ADDITIONAL FILM HAS BEEN SENT TO THE GROUP FOR PROCESSING. THIS MOTTLE EFFECT WAS ALSO EXPERIENCED WITH FILM EXPOSED ON THE CHIP PRINTER. IN THE PAST WITH THE SO 250. FILM WAS EXPOSED USING THE CHARACTER GENERATOR EXPOSURE LAMP SO THAT A FILTER COULD BE MANUFACTURED THAT WOULD BE THE COMPLEMENT OF THE EXPOSURE LAMP FOR THE PURPOSE OF MAKING THE CHARACTER GENERATOR SOURCE MORE UNIFORM.	501.1	504.3	22931	23306 RD.
2/16/68	ANUMBER OF RUNS WERE MADE USING OLD CHIPS. RUN 1 - CHIP JAMMED MIDWAY THROUGH RUN GOING THROUGH DEVELOPMENT MAGAZINE DOORWAY. RUN 2 - CALLED FOR 11 CHIPS; DROPPED 3 OUT EXCESS CHIP SHUTE; PICKED APPROXIMATELY EVERY OTHER TRY RUN 3 - CALLED FOR 6; GOT 6; TOOK APPROXIMATELY 8 TRY TRIES.	504.3	506.9	23306	2342 Ra

DATE	ACTIONS, REMARKS	FTV	U	FC	KLS	ET	CHD	F3
	MAJUN Approved For Release 2011/05/03 : CIA-RDP78B04747A000800010002-1 SHUTE; TWO CHIPS JAMMED GOING INTO HOLDERS. RUN 4 - CHIP JAMMED UP R 2 SIDE OF CASSETTE. RECEIVED CHARACTER GENERATOR FILTERS FROM PROCESSING + SELECTED TWO FOR INSTALLATION.							
2/19/68 *	THE NEW VACUUM PUMP WAS INSTALLED IN PLACE OF THE OLD ONE. THE CHARACTER GENERATOR LAMP AND HAMMER ASSEMBLY WITH A FILTER INSTALLED IN THE LIGHT HOUSING WAS REINSTALLED AND A NUMBER OF TEST EXPOSURES WERE MADE TO CHECK EVENNESS OF ILLUMINATION ACROSS THE MASK AREA. THERE WAS A MARKED REDUCTION OF BACKGROUND AT THE CENTER OF THE DATA BLOCK. THE SPARK GAP OF THE EXPOSURE LAMP POWER SUPPLY WAS ADJUSTED. A NUMBER OF EXPOSURES WERE MADE TO CHECK THE ALIGNMENT OF THE TARGET FORMAT ON THE CHIP. ON A NUMBER OF RUNS, IT WAS NOTED THAT THE LOWER TRANSPORT^{ARM} BECAME WEDGED BENEATH THE ARMING FINGER.	506.9	510.1	23482	23510			RA
2/20/68 *	THE TRANSPORT ASSEMBLY ARMS WERE REMOVED FOR EXAMINATION AND REWORK TO ELIMINATE THE POSSIBILITY OF ARMS RIDING UNDER THE INSERT FINGER ADDITIONAL CHECKING OF THE PRINT MACHINE WAS DONE FOR POSITION SO THAT THE TARGET FORMAT WOULD LIE PROPERLY ON THE CHIP. SOME TRIMMING WAS DONE ON THE X SERVO TO IMPROVE SERVO RESPONSE AT THE EXTREME ENDS OF THE FILM ROLLS.	510.1	515.5	23510	23779			RA
2/21/68 *	THE TRANSPORT ARMS WERE REINSTALLED. STOPS HAVE BEEN ADDED TO LIMIT THE TRAVEL OF THE TRANSPORT ARMS SO THAT ARMS CANNOT JAM UNDER ARMING PINS.	515.5	517.3	23675	23738			RA

DATE

MALFUN Approved For Release 2011/05/03 : CIA-RDP78B04747A000800010002-1

ETH

#CYLES

END

ACTIONS, REMARKS

A NUMBER OF TEST RUNS TO CHECK THE OPERATION OF THE TRANSPORT WERE MADE. THE TRANSPORT OPERATED SATISFACTORILY.

ADDITIONAL TESTING BY THE PHOTO RESEARCH GROUP TURNED UP THE FOLLOWING RESULTS.

FILM	DEVELO.	TIME	TEMP	L	Dmax	REMARKS
SO250	D-76	7 1.75	70 $\pm$ 1	1.07	2.13	MOTTLING
SO 250		4 MIN		1.16	2.79	NO MOTTLING
SO 250		8 MIN		1.48	2.87	NO MOTTLING
ANSCO VERSIDAN F 8901		1.75		-	-	NO MOTTLING
		4		-	-	NO MOTTLING
		8		-	-	NO MOTTLING

THE ABOVE SHOTS WERE PROCESSED WITH A BASE DENSITY OF 1.3 ON A ROLUR SHEET DEVELOPER BUILT TO FCIL SPECIFICATIONS. THE UNIT IS CAPABLE OF CONTROLLED AGITATION ABOUT THREE AXIS. THE GENERAL INDICATIONS ARE THAT THE SO 250 IS ~~PRONE~~ ^{PRONE} TO UNEVEN DEVELOPMENT EITHER AT SHORT DEVELOPING TIME IN D 76 OR TO DEVELOPING AT A δ OF 1.0

2/22/68

A NUMBER OF CHARACTER GENERATOR EXPOSURES WERE MADE WITH THE DATA MASTER CARRIAGE IN VARIOUS POSITIONS ACROSS THE DATA MASK AREA. NO SIGNIFICANT DIFFERENCE IN CHARACTER GENERATOR PRINT QUALITY.

THE FILTER WHEEL OVERSHOT ~~IN~~ ITS POSITION SEVERAL PASSES ON A NUMBER OF OCCASIONS BEFORE COMING TO REST AT ITS PROPER POSITION.

ADDITIONAL SHOTS WERE MADE TO CHECK THE PRINT MAGAZINE DETENT POSITION.

517.3

520.1

23732

23811

2A

DATE	MALFUI Approved For Release 2011/05/03 : CIA-RDP78B04747A000800010002-1	ETA	ACCLUST	83
ACTIONS, REMARKS			CC CND	
	TOWARD THE END OF THE DAY, THE CHIP DROP WOULD NOT DROP CHIPS, THE UNIT WAS REMOVED FROM THE PRINTER FOR EXAMINATION ON THE BENCH.			
2/23/68	THE OPERATION OF THE CHIP DROP MECHANISM WAS CHECKED ON THE BENCH. A NUMBER OF EXPOSURES WERE MADE OF THE CHARACTER GENERATOR INFORMATION SO THAT A DATA EXPOSURE WAS MADE ON EACH PLATEN. THERE WAS NO SIGNIFICANT DIFFERENCE IN EXPOSURES ON VARIOUS PLATENS. A NUMBER OF EXPOSURES WERE WERE MADE TO CHECK THE LOCATION OF THE MASK.	520.1	522.3	23811 23872
2/26/68	THE X AXIS WAS CHECKED AGAIN FOR ACCURACY AND WAS AGAIN FOUND TO BE READING SHORT BY APPROXIMATELY 0.3mm OUT OF 635.0 mm. AN INVESTIGATION WAS BEGUN OF ACETATE FILM STABILITY. THE CHIP DROP MECHANISM WAS REPLACED AND THE UNIT WAS CYCLED TO INSURE SATISFACTORY OPERATION OF THE MAGAZINE IT WAS NOTED THAT THE FILTER WHEEL ON OCCASION TOOK MORE THAN ONE PASS TO HOME IN ON THE COMMANDED FILTER SEGMENT.	527.9	531.3	23918 23971
2/27/68 *	ON THE FIRST RUN OF 12 OLD CHIPS, THE TURRET OPERATION STOPPED AT THE START OF ROTATE PORTION OF THE SEQUENCE. THE MALFUNCTION WAS CLEARED AND THE UNIT WAS RESTARTED. THE UNIT STOPPED AT THE SAME PORTION OF THE CYCLE ON THE SAME PLATEN. THE 90° NEST SOLENOID CIRCUITRY WAS DISABLED, AND A VARIABLE POWER SUPPLY WAS PLACED TO TO DRIVE THE SOLENOID. THE VOLTAGE NECESSARY TO PULL THE 90° NEST SOLENOID PIN WAS 24 VOLTS FOR THE PLATEN THAT WAS	531.3	534.0	23971 24024

ACTIONS, REMARKS

* DURING A CHECK OF THE AZIMUTH LOAD LIGHT OPERATION, IT WAS NOTED THAT THE TWO LOAD POSITIONS LIGHTS WERE NOT OPERATING. THE SWITCHES WERE EXAMINED AND IT WAS FOUND THAT THE ACTUATORS WERE DEFORMED. THE ACTUATORS WERE REPLACED, AND THE ACTUATING CAM HAD A MORE GRADUAL RISE MACHINED ON IT. THE PARTS WERE REASSEMBLED AND FOUND TO PERFORM SATISFACTORILY.

2/24/68

* The lower film footage counter slipped a gear. This was repaired by us.

IT WAS FOUND THAT AT THE ENDS OF THE FILM ROLL THE FILM FOOTAGE COUNTER WOULD NOT COUNT AT SLOW SPEEDS IN ONE DIRECTION. A CIRCUIT CHANGE WAS MADE TO ~~THE~~ EFFECTIVELY INCREASE THE SENSITIVITY OF THE CW & CCW RELAYS IN THE SERVO DRAWER.

TWO JAMS OCCURRED IN THE CHIP TRANSPORT MECHANISM. ONE LOOKED AS IF THE CHIP WAS KNOCKED OUT OF THE HOLDER WHILE GOING INTO THE DEVELOPMENT MAGAZINE. THIS MAY JUST BE A RANDOM FAILURE. THE OTHER JAM OCCURRED BECAUSE THE HOLDER BOUNCES IN THE TRACK IF IT DOES NOT FALL STRAIGHT. THIS CAUSES THE TRANSPORT TO MOVE AND THE CHIP TRIES TO ENTER THE HOLDER BEFORE THE HOLDER IS PROPERLY SEATED IN THE TRACK.

THE Y COUNTER JUMPED TO 999.9 ~~at~~ DURING PRINTING. THIS IS PROBABLY DUE TO NOISE. THE IS A Y SERVO ERROR THAT LOOKS LIKE 1.0 MM FINAL POSITION ERROR. THERE WAS ALSO

531.6 545.4 24114 24255

Date	MAL Functions	ETI	# Cycle	Y	ENL	Sig
	a counter error in that the counter read 15.3 and it should have been 15.7. This did not account for all the error. It might be that the target film is improperly measured.		545.4	550.1	24255	24421
Nov 1/1967	"Reset" the Azimuth "Zero" & "Load" switches. Noticed that holders were bouncing and causing jams in the transport.		550.1	554.6	24421	24568
Nov 2/1967	Put in delay in chip holder drop circuit. worked well. Run liquid gate, resolution, REC. Every thing well went well.		554.6	561.1	24568	24822
Nov 4/1967	RAN ATP for customer. completed all tests except resolution and final photo test. All worked well except that the chip transport jammed fairly frequently and the X servo ran away. The servo problem is due to the sign flip flop being set probably by noise.					
Nov 5/1967	Finished ATP. Resolution. Ran 375 μ m. Avg. Final photo test was out due to X servo run away. Customer did not like the fluid seeping up thru mask during film transport. we will try to fix.		561.1	564.9	24568	24950

Date	MAL FUNCTIONS, TESTS	ETT	# Cycles	S1	Sigs
Mar 6/68	Ran the transport and took high speed movies of scene.	564.9	567.4	24950	2500
Mar 7, 1968	High speed movies of chip transport showed that the rotating turret hits the top transport arm and the chip Bender is close to opening before the chip is fully inserted into the chip holder. It was decided to slow down the rotation by increasing R63 & R23; shorten the chip holder in place delay by reducing C22 from 82 to 47K and add a delay circuit on rotate (delay K12 100 usec)	567.4	572.6	2560	25800
Mar 8, 1968	Ran 34 chips with servo on no misses on chip drop, no malfunctions any where. Ran another run of 34, on the 21 chip count a chip went up the side of the cassette. Removed chip and successfully loaded the 34 chips no problem with servo run away. Ran a series series of data master shots and developed for varying times from 4.5 to 10 minutes.	572.6	575.1	25520	25589
Mar 9, 1968	Ran a series of data master & Platen alignment shots. Had a jam where chip got caught under a guide. Data master shots were developed for 8 minutes and the exposure amplitude was varied. We now use 6.2K in circuit, 5.8K seems to give best depth to light reflex. Pinned the chip drop. Tried method to blow fluid lines during film dry.	575.1	578.9	25588	25594

Date	MAL fu...	ETI	#	Cycl.	S
Mar 10/78	* Chip Holder insertion finger is is very tight in the extended position. Tends to remain out. IT was found that the drive yoke (1137-423) had galled in the pin slot and raised a burr which bound up the mechanism. To correct, the pin size is increased from $\frac{1}{16}$ to $\frac{3}{32}$ and is now hardened. IT was noticed that the aluminum gear on the drive yoke is showing signs of wear. It was not replaced at this time.	578.9	580.7	25574	25646
Mar 12/78	Ran tests to determine position of finger to Bow chips in proper direction during liquid gate. During this run a holder failed to drop out bore to a gun. Did not arrive at a final position for the finger yet. The y servo amp was repaired here to correct for an imbalance in its output. After repairs the symptom still remained. The external balance circuit was modified but it was also discovered later that the amplifier was intermittent.	580.7	585.5	25646	25702
Mar 13/78	In attempting the Anti S-Bow finger in the chip transport was adjusted for liquid gate operation, however the finger was so far out that when dry chips were run it knocked them out of the chip bearer gate. Also the finger was actually touching the surface of the plate.	585.5	587.6	25702	25157

The Y Amplifier intermittent problem seems to have been cured by soldering the internal plug-in resistor network board instead of relying on the plug in pins.

Merly

R.H. 2:30 PM - 3070

588.6 592.2 25907 26105 Z

Y servo amp was put back together and the amp & tech gains were adjusted for optimum operation. In auto mode there is still the approx 4 bit error probably due to cable tension when the ~~the~~ servo goes off and before the brake falls into place.

A change was made to keep Y from moving during manual X ~~set~~ slows the CW & CCW relays were interlocked into the Y amp output so that the Y ~~amp~~ is disengaged when the ~~the~~ joystick is moved in the X direction. This change does not bother Y movement in either auto or manual.

An additional anti S bow finger was put into the chip trans part bottom track. This was done because the existing finger could not be adjusted for wet and dry operation. The wet adjustment would not work dry & vice versa. 25 chips were run with liquid gate. No malfunctions. 25 chips were run dry. One chip fell back out of the chip holder, maybe just a random

Readjusted the bottom
finger, got good results.
Noticed after that chips
were not dropping off
the platen in the chip
eject station. Found
some tape residue on
platen.

Mar 15, 1980

11:00 AM R.H. = 2690

Cleaned Platen, chaps handled
well dry.
Running with liquid gate;
a chip did not go completely
into a holder and holder
got jammed in holder magazine.
The transport arm got caught
between the rotating platen
and the casting. This jammed
the rotate. A chip holder
failed to drop out of the
holder supply in time. This
caused a jam. The holder
supply tracks were very dirty
these were cleaned.

the 5 inch target
film was clocked. Due to
the numbers in the azimuth,
slow speed did not ~~for~~
come in in time to prevent
an overshoot. The azimuth
~~test~~ ~~was~~ ~~only~~ took less
increased to slow azimuth
down, got better results
this way.

$$R.H = 2670$$

Running Rigold Gate!
called for 34 chips after
14 chips one went up the
side of the chip cassette. This
was clear and after 4 more

DATE

MALFUNCTIONS

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F.T.2

Cycles

89

Sign

another went up the side.
The ~~for~~ print lamp failed to
light. The power supply arc was
OK. Either the lamp is
burnt out or else we are
arcing across somewhere in
the system. Tried the
lamp again and now it
works.

L.G. Run RH = 2690
called for 35 PUT 35 away
Lamp good every thing good.
OCD chips

Lamp malfunctioned again
* Replaced lamp. Cycle 126300
timer: 595.9

L.G. Run RH = 2670

called for 35, ~~2~~ 2 chips
s-bowed in the chip bender,
one made it thru, one
missed.

moved the top anti show
finger in towards the platen
1/32 inch

Dry Run RH = 2690

called for 35; 9 went
thru then chip; cassette jammed
(one up the side)

called for 25; 25 OK
lamp OK.

* Modified the chip holders
by removing the ~~that~~ single
torret near the hanger hooks

L.G. Run RH = 2670
Ran 35 chips, one failed
to go into a holder. Could not

DATE

MALFUNCTIONS

Observe ~~the~~ reason for malfunction may be just random.

Ran 35 chips. Rotating platen jammed against top transport arm again. This should not be because the transport arm should have been latched at this time. Either the arm is not latching on occasion or ~~it is~~ after unlatching it is bouncing out of the stop.

Further investigation showed that the arm is bouncing out of the stop ~~and~~ momentarily. The platen rotate delay capacitor C21 was increased from 47 uf to 94 uf. This delays rotate long enough so that the transport bounce can die out before the rotating platen can hit it.

Ran L.B. chips; had a jam in #4 magazine. maybe something about this magazine that causes this type of jam.

RAN L.B. chips & 14 chips called for, 14 PUT away. Lamp OK.

3/16/68

R.H.

300%

avg

830 AM

3/16/68

R.H.

310%

avg

830 500 PM

3/18/68

R.H.

360%

830 AM

Date

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ET.F # (7/10/51) 3

Mar 18, 1963

10:00 AM RH = 37°70

~~Day Run: Called for~~

previously readjusted inner can
in chip cassette. modified
top chip ~~transport~~ transport arm
slightly to give greater clearance
between transport arm and
PCaten.

Day Run: Called for
35 chips. 35 put away.
one chip holder was very
sluggish coming out of
the chip holder supply so
that two chips were put
into one holder, however
it did drop by itself.
lamp worked ok; X servo
remained stable.

L.G. Run R.H. 37°70

called for 35; 33rd chip

formed in holder.

3/18

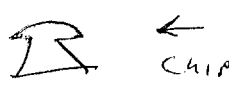
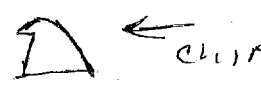
11:00 AM RH 37°10

Run AEC test; all came
within spec

Run L.G. Run called for
28 chips, 28 put away
no mal functions

577.0 601.6 26495 26656

Mar 14, 1968	10:30 AM RH = 3870 RAN ALL TESTS OF ATP STARTING WITH ATP STARTING WITH ATP FOOTAGE COUNTER & ALL SUBSEQUENT. PARS. 600PM RH: 380%	601.6	607.0	26656	26826
--------------	--	-------	-------	-------	-------

Mar 20, 1968	10:30 AM R.H. 3870 TOP ^{CHIP} transport arm had a great deal of trouble inserting chips into holders. Reason could not be readily ascertained. 8 chip holders were modified so that the edge of single turner was presented a sloping surface to the entering chip.  Turner Old turner  Modified turner After modification 48 chips were put away in series of 8. and the next run at chip the top transport arm failed to put a chip in a holder. unmodified holders were added to the stack of modified holders. Ran 40 more chips thru and the top arm failed to put a chip in an unmodified holder. RH = 3970	607.0	612.2	26826	27623
--------------	---	-------	-------	-------	-------

Date

Hel functions (T-312)

 1-77 # 97
 6122614.6 27623 27901

Mar 24

Ran ~~2000~~ Dry Run

3 runs with modified &
 on modified holders randomly
 mixed. A transport jam
 occurred each time with
 the top transport ~~ARM~~
 on an on modified holder.
 put 17 modified holder
 in first and 17 on modified
 the modified all ran
 well and a jam occurred
 on an on modified holder.
 this happened twice

Wet gate runs
 using only modified holder

~~35~~ 18 called for 18 in
 17 called for 17 in
 17 called for 2 in
 17 called for 2 in
 17 called for 17 in

noticed that on the
 wet gate runs one less
 than the required number
 of chips was deposited
 in the dev magazine.
 possibly noise caused the
 chip counter to skip.

put in a heli coil insert
 in a stripped screw hole.
 had to remove transport
 track to do this. Had
 very poor results in
 transporting after this.
 Readjusted the top ANTISBAR
 finger. One wet run
 of 10 went OK.

Date

Malfunctions, IC's, IC's

Mar 22

Painting

614.6

614.6

278.1

278.1

Mar 25

Dry Run:

Ran 28 chips all good.

Noticed that the top transport arm was not completely in the ~~stop~~ stop. The force exerted by the limit switch was preventing the arm from returning to the stop in the reduced power mode. The switch was readjusted.

~~Test~~ Liquid Gate. Ran 30 chips all good

*

Installed a longer forward shim on top transport arm in order to be more certain of picking up the chip doing the chip properly. This fix was not tested. Unit shut down for packing.

4/21/68

Shipped System to Data Corp, Dayton Ohio

4/3/68

Unpacked System - In apparent visual damage. Air installed; air lined connected to the filter-regulator. Power facilities ready for use - Connected to power bus. #1 & #2 development magazines were located in the facility.

1 run of 30 dry gate ok
1 run of 34 wet gate - 27 in, 28th holder didn't drop.
1 run of 33 wet gate - OK.
1 run of 5 wet gate - print lamp firing OK.

Noticed moisture in the liquid around the neck. Decided to replace the liquid tomorrow, before starting.

28/47

4/4/68 Replaced the liquid in the system with new Freon and Tetrachlorethylene

Started acceptance test at par 5.2.4.6 (abbreviated)

120 chips handled today CYCLE COUNTER 28326
1 JAM, chip caught between guides & platen.

Repeat AEC & Positioning accuracy test on "49".

4/5/68

Reference Positioning accuracy test par 5.3.1.1 and 5.3.1.2. The final cross hair location on the prints measured up to 1.0 mm error in position to demonstrate the machine repeatability and accuracy, the same target was positioned three times by tape automatically. The machine was then measured and found to be up to 0.7 mm. The machine was then switched to manual and the film manually repositioned to the start point and the measurement counters observed to be within 0.1 mm of zero. These tests demonstrate the capability and repeatability of the machine to position to the input data accurately.

The error noted in the above positioning accuracy test is attributed to film instability as a function of temperature and/or Relative Humidity.

AEC Test Para 5.3.5. The previous day's processing for this test was done in a versimat. In order to achieve a $\gamma=1$ the temperature and speed in the processor had to be drastically altered. In addition D-76 developer was not used. ALL AEC prints were approx ND .3 too dense (total of 12 prints) and two AEC prints were had processed in D76 for 4.75 minutes at 68°F in an effort to reproduce the results obtained previously at FCI. Results gave ND .62 and .56 when using the .9 ND filter in the ATP data

perform at 161.9 at 101
 Approved For Release 2011/05/03 : CIA-RDP78B04747A000800010002-1
 The Calibration to have remained as in that AIP.
 Processing Standards must be established during test & evaluation phase.

CYCLE COUNTER
 28353

4/6/68

TOTAL Data on Resolution test Page 5.3.6

Chips	processed	by hand	in	D-76
CHIP #	CHIP #	CHIP #	CHIP #	CHIP #
4	3	2	1	
X/Y	X/Y	X/Y	X/Y	
Upper Right	406/406	323/323	227/227	362/323
Lower Right	227/227	227/227	323/227	323/323
Center	323/313	406/406	323/323	362/406
Upper Left	121/203	323/323	312/323	323/323
Lower Left	362/362	362/362	362/362	362/362
Avg X/Y	312/316	340/340	323/316	346/347
Avg total	314	340	320	346

Cycle
 counter 28353

4/8/68 Chip Handling Demonstration

- 1) dropped 4 - vacuum did not shut off - machine continued to drop holders but no chips
- 2) Set for 34 - OK
- 3) Set for 34 - OK
- 4) Set for 34 - OK
- 5) Set for 34 - OK
- 6) Set for 34 - OK
- 7) Set for 34 - OK
- 8) Set for 34 - OK
- 9) Set for 34 - 24
 Chips jammed at platen
 therefore no further drops
- 10) Set for 34 - OK
- 11) Set for 34 WET 33 in on chip
- 12) Set for 34 WET 34 in Chip drop failure
 no drops - cleaned went on to complete
 34. Print Lamp was not firing.
- 13) Set for 34 WET 34 in OK
- 14) Set for 34 WET 34 in OK